The Diverse Manufacturing Supply Chain Alliance (DMSCA)
The Corporate Mentoring Program (CMP)

Prepared For

Minority Business Development Agency (MBDA)
MBDA Initiatives in Advance Manufacturing

December 4, 2013

DMSCA
DIVERSE MANUFACTURING SUPPLY CHAIN ALLIANCE
ALIGN - ADAPT - ACHIEVE

Advance Manufacturing

An Applied DMSCA Definition

"The Advance Manufacturing entity makes use of computer, high precision, and information technologies with a high performance workforce in a production system capable of furnishing a heterogeneous mix of products in small or large volume with both the efficiency of mass production and the flexibility of custom manufacturing in order to respond quickly to customer demand".

Paul Fowler
NACFAM

SUPPLY CHAIN PERFORMANCE OBJECTIVES
IMPLICATIONS FOR SUPPLIERS

Supply Chain Performance Objectives:

- Reduce Supply Chain Cost
- Increase Revenues
- Improve Customer Services
- Process Standardization
- Transaction Cost Reduction
- Reduction of Component Variation

Implications or Suppliers:

- Supply Base Reduction
- Supply Base Rationalization
- Performance Alignment
- Performance Risk Mitigation

"While Supply Chain Management objectives vary, all have significant implications for Procurement and Supplier Relationship Management (SRM). With up to 75% or more of Corporations' value residing in the supply base, these Supply Chain objectives have significant implications for assumed and desired levels of Supplier Development and Collaboration."
David J. Burton

"The message to Suppliers is quite simple. Your Customer's supply chains are maturing. Suppliers need to "move without the ball" and focus on strategic performance improvement in order to stay in the game."
David J. Burton

BASIC SUPPLIER DEVELOPMENT OBJECTIVES

- Align Business Objectives
- Achieve Sustainable Cost Reduction
- Achieve Right Quality Standard
- Gain Competitive Advantage
- Minimize Compliance Risk
- Instigate Continuous Improvement
- Capture Supplier Innovation
- Identify Low – Mid Volume Sourcing Opportunity

"While all of these issues are important, developing Suppliers for sustained Supply Chain inclusion is perhaps the most challenging. Getting in the Supply Chain is one thing – staying and improving performance each year to drive down cost to meet customer requirements is another. Without a Supply Chain Strategy, control of process metrics, and knowing how to improve, many Suppliers risk failure."
David J. Burton

CORPORATE MENTORING PROGRAM (CMP)

A Performance Driven Supplier Development System

Target:

- Mature and Maturing Suppliers

Objectives:

- Measure and identify *product* and *enterprise* performance process and maturity gaps
- Align *product* and *enterprise* performance metrics with customer requirements
- Support capability development and capacity expansion
- Capture innovation and fosters support for new product development
- Foster sustained performance and continuous improvement
- Certify organizational performance maturity

Development Focus:

- Supply Chain *"Product Level"*
- Whole *"Enterprise Level"*

SCOR Process Improvement Impact

A 2% process *(plan, source, make, delivery return)* metric improvement has 3000% to 5000% the impact to the bottom line, compared to 2% improvement in IT, HR, or other MRO area.

SUPPLIER CHANGE MANAGEMENT BUILDING BLOCKS

Change Phases	Key Points	Change Management Activities	CMP Phase Alignment
Awareness	**Communicate** **-Business Need for Change** **-Why Change is Being Made** **-Risk of Not Changing** **-What's In It for Me (WIIFM)**	- Dialogue with Customers - Dialogue with Suppliers	**CMP 1.0** ***CMP System Overview***
Desire	**Assess Supplier and Customer** **- Willingness to support** **- Commitment to engage**	- Corporate Sponsorship - Organizational Alignments	**CMP 2.0** ***Organizational and Performance Benchmarking Readiness***
Knowledge	**The information, training, and education necessary to know how to *change (Processes, Tools, Skills, Techniques, Systems, etc.)***	- Quantitative Performance Benchmarking - Qualitative Performance Benchmarking	**CMP 3.0** ***Performance Benchmarking***
Ability	**Demonstrated capability to implement the change at the required performance level**	- Gap Analysis - Best Practice Applications - Case Studies - Performance Reports	**CMP 4.0** ***Analysis and Deployment***
Reinforcement	**Factors that sustain the change *(Information Sharing, Recognition, Performance Differentiation Opportunity)***	- Performance Certification - Continuous Improvement - Potential Procurement Increase	**CMP 5.0** ***Development,, Expansion and Continuous Improvement***

Expected Levels of Process Improvements

Depending upon Supplier Supply Chain Configuration and Peer Groups

- Delivery Performance: 16% to 28%
- Inventory Cost Reduction: 25% to 60%
- Reduction in Order Fulfillment Cycle Time: 30% to 50%
- Improvement in Forecast Accuracy: 25% to 80%
- Increase in Overall Productivity: 10% to 16%
- Lower Supply Chain Cost: 24% to 50%
- Improvement of Fill Rates: 20% to 30%
- Improved Capacity Realization: 10% to 20%

SAMPLE LEVEL 1 METRICS
SUPPLIER PERFORMANCE BEMCHMARKING

	Attribute	S/A/P	Metric Level 1	CMP Supplier	Parity[1]	Advantage[2]	Superior[3]	Supplier Variance
Customer Facing	Reliability	S	Perfect Order Fulfillment RL. 1.1	97%	92%	95%	98%	1%
Customer Facing	Responsiveness	A	Order Fulfillment Cycle Time RS. 1.1	14 days	8 days	6 days	4 days	8 Days
Customer Facing	Agility	P	Supply Chain Agility AG. 1.1	62 days	80 days	60 days	40 days	0
Internal Facing	Cost	P	Supply Chain Mgmt. Cost CO.1.1	12.2%	10.8%	10.4%	10.2%	1.4%
Internal Facing	Assets	A	Cash-to-Cash Cycle Time AM. 1.1	35 days	45 days	33 days	20 days	2 Days

CMP Supplier's "*As Is*" S-A-P **Supply Chain Business Development Platform** Performance

Required **Customer Critical Business Development Platform** S-A-P Supply Chain → **CMP Supplier Improvement Path**

Other S-A-P Global **Supply Chain Critical Business Development Platform** Performance Metrics

CMP Supplier *"As Is"* **Performance Gap** for **Customer Critical Business Development Platform**

** A CMP Supplier could also select desired S-A-P Metric Levels for its **Supplier Strategic Business Development Platform***

[1] Parity – 50% Percentile/ 50% of peer suppliers perform better/50% less
[2] Advantage – Top 30% Percentile/ 70 % of peer suppliers performance less
[3] Superior – Top 10% Percentile/ 90% of peer suppliers performance less

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SAMPLE LEVEL 2 DIAGNOSTIC METRICS
SUPPLIER PERFORMANCE BENCHMARKING DIAGNOSTIC SCORCARD™

Customer Facing

Attribute	S/A/P	Metric Level 2 Diagnostic Metrics	Diverse Supplier	Parity	Advantage	Superior	Performance Gap
Reliability	*S*	*Perfect Order Fulfillment RL. 1.10*	*97%*	*85.5%*	*91.5%*	*98%*	*1.0%*
Reliability	S	% of Orders Delivered in Full RL. 2.1.	100%	95.0%	98.%	99.8%	0
Reliability	S	Delivery Performance to Customer Commit Date RL. 2.2 .	97%	89.4%	95.8%	98.4%	1.4%
Reliability	S	Documentation Accuracy RL. 2.3.	99%	99%	99.3%	100%	1.0%
Reliability	S	Perfect Condition RL. 2.4.	99%	98.0%	99.0%	99.9%	.9%

CMP Supplier's "As Is" S-A-P **Supply Chain Business Development Platform** Performance Metrics

Required **Customer Critical Business Development Platform** S-A-P Performance Metrics

Other S-A-P **Supply Chain Critical Business Development Platform** Performance Metrics

CMP Supplier's "As Is" **Performance Gap** for **Customer Critical Business Development Platform** Performance Metric Target

Strategic Reliability Metric

Metric:	**RL.1.1 Perfect Order Fulfillment**
Definition:	The percentage of orders meeting delivery performance with complete and accurate documentation and no delivery damage. Components include all items and quantities on-time using the customer's definition of on-time, and documentation - packing slips, bills of lading, invoices, etc.
Calculation:	[Total Perfect Orders] / [Total Number of Orders] * 100%
Diagnostic Metrics: (examples)	• RL.2.1 % Orders Delivered in Full • RL.2.4 Perfect Condition • RL.3.19 % Orders Received Defect Free • RL.3.24 % Orders Received Damage Free
Notes:	An order is perfect only if ALL L2/L3 metrics are perfect; An order must be: on-time AND in-full AND right condition AND right documentation
Best Practices: (examples)	• BP.159 Electronic Data Interchange (EDI) • BP.014 Demand Planning & Forecasting • BP.019 Demand Planning • BP.020 Demand Management

Strategic Responsiveness Metric

Metric	**RS.1.1 Order Fulfillment Cycle Time**
Definition:	The average actual cycle time consistently achieved to fulfill customer orders. The actual cycle time starts with the receipt of the order and ends with the customer acceptance of the delivery. The unit of measure is days.
Calculation:	[Sum Actual Cycle Times For All Orders Delivered] / [Total Number Of Orders Delivered]
Diagnostic Metrics: (examples)	• RS.2.2 Make Cycle Time • RS.2.3 Deliver Cycle Time • RS.3.96 Pick Product Cycle Time
Notes:	Order Fulfillment Cycle Time may include dwell time and idle time. Dwell time is days the order was placed in advance by the customer. Idle time is the time the order is waiting because of inefficiencies of the supply chain.
Best Practices: (examples)	• BP.138 Theory of Constraints • BP.165 Convergence of SCOR with Lean and Six Sigma • BP.016 Supply Network Planning (EP) • BP.035 Business Rule Review (EP)

Strategic Agility Metrics

Metric: **AG.1.1 Upside Supply Chain Flexibility**

Definition: The number of days required to achieve an unplanned sustainable 20% increase in quantities delivered. Seasonality is not considered unplanned/unforeseen. The unit of measure is calendar days.

Calculation: The larger of the number of days required to achieve sustainable increase for Source, Make and Deliver

Diagnostic Metrics:
- AG.2.1 Upside Source Flexibility
- AG.2.2 Upside Make Flexibility
- AG.2.3 Upside Deliver Flexibility

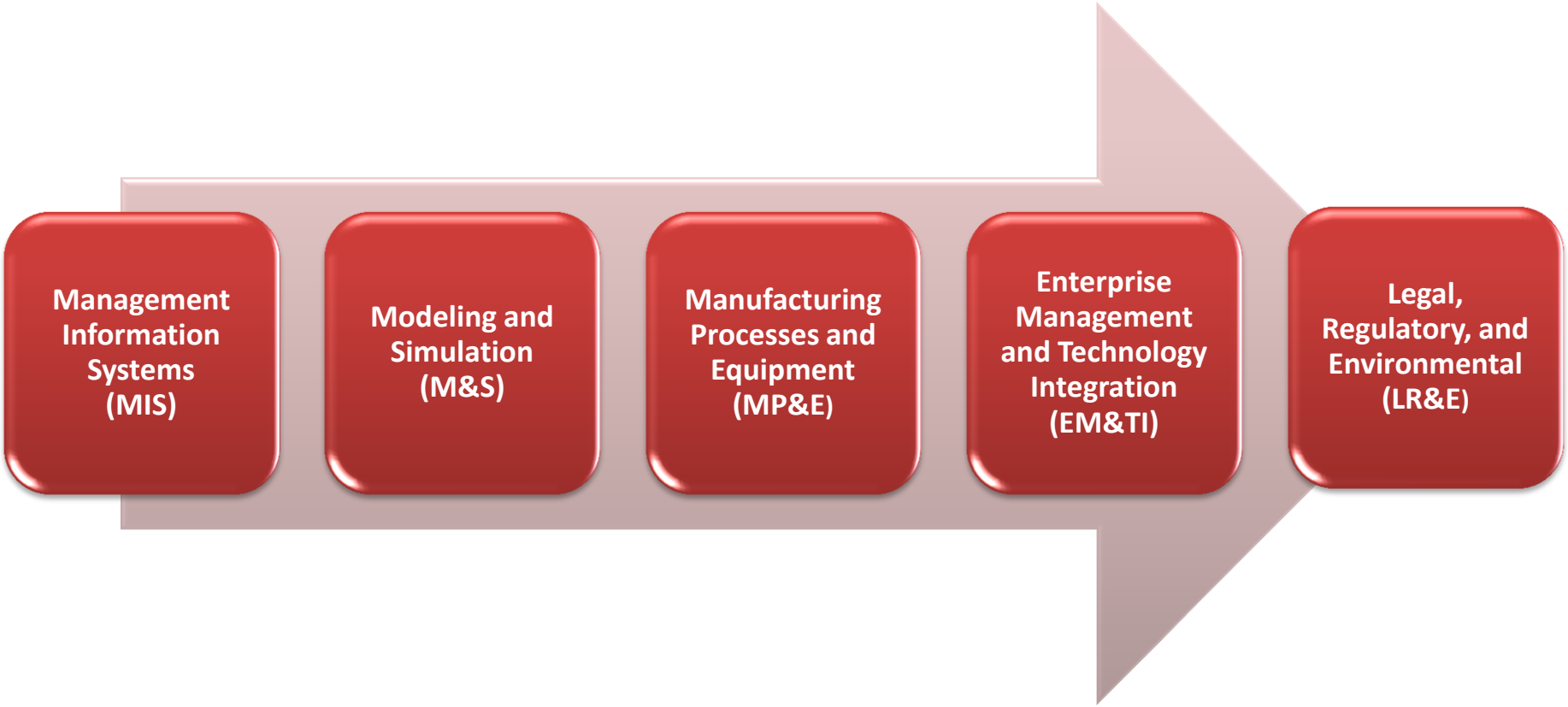
Notes: This metric may have more than one Source, Make and Deliver Flexibility component depending on the complexity of the supply chain.

Best Practices: (examples)
- BP.145 Vendor Collaboration
- BP.163 Optimized Supplier Count
- BP.165 Convergence of SCOR with Lean and Six Sigma
- BP.162 Long Term Supplier Agreement/Partnership (EP)

STRATEGIC IMPROVEMENT PLAN (SIP)

BUSINESS PROCESS AREAS (BPAs)

The CMP Foundation for Capturing Supplier Innovation



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CMP Supplier Performance Certification

Level 3: Continuous Improvement

Level 2: Processes Measured and Controlled

Level 1: Processes Characterized /Proactive

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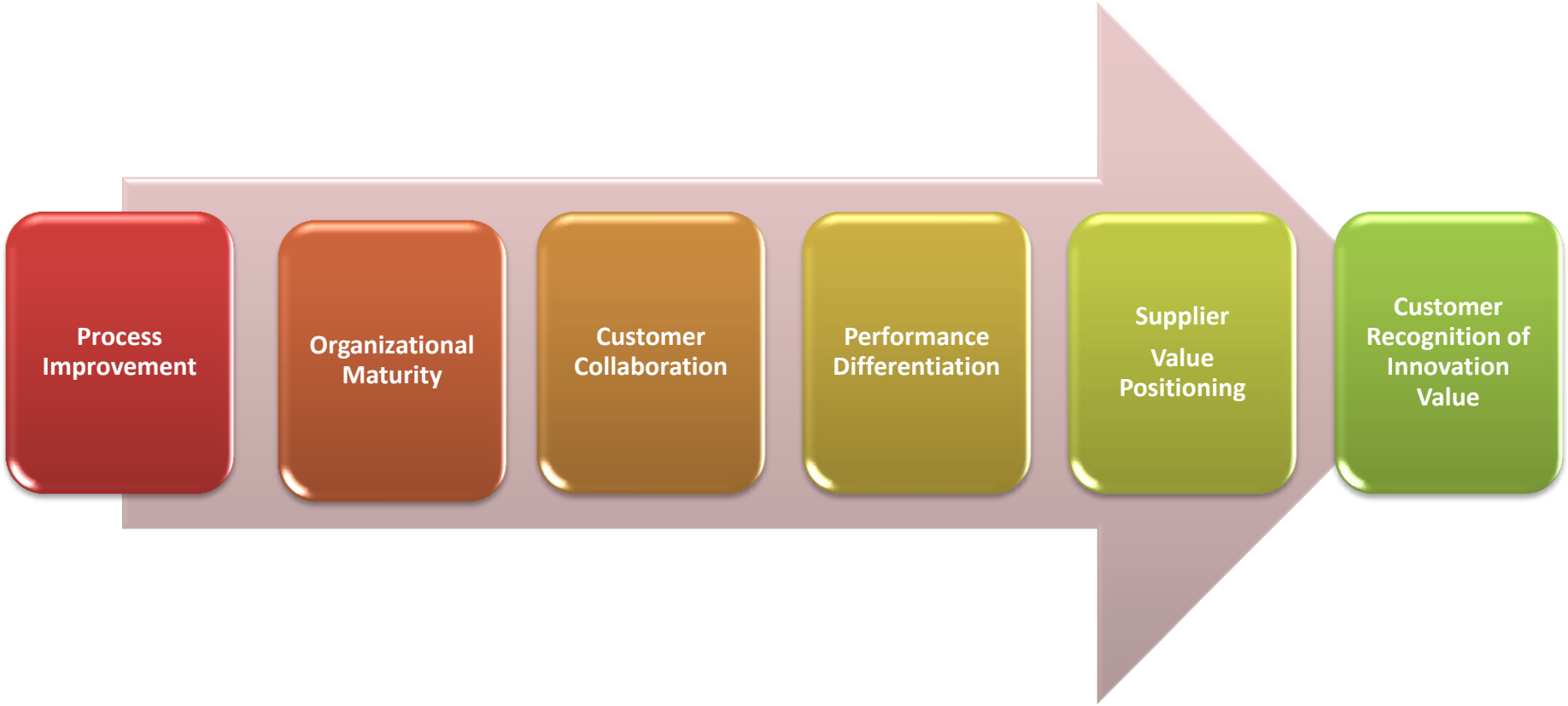
THE CMP FORMULA FOR ADVANCE MANUFACTURING SUCCESS



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EXAMPLE (S) OF CMP SUPPLIER INNOVATION

Solutions for
Efficient Packaging
and Effective Merchandising

IT Optimized Solutions

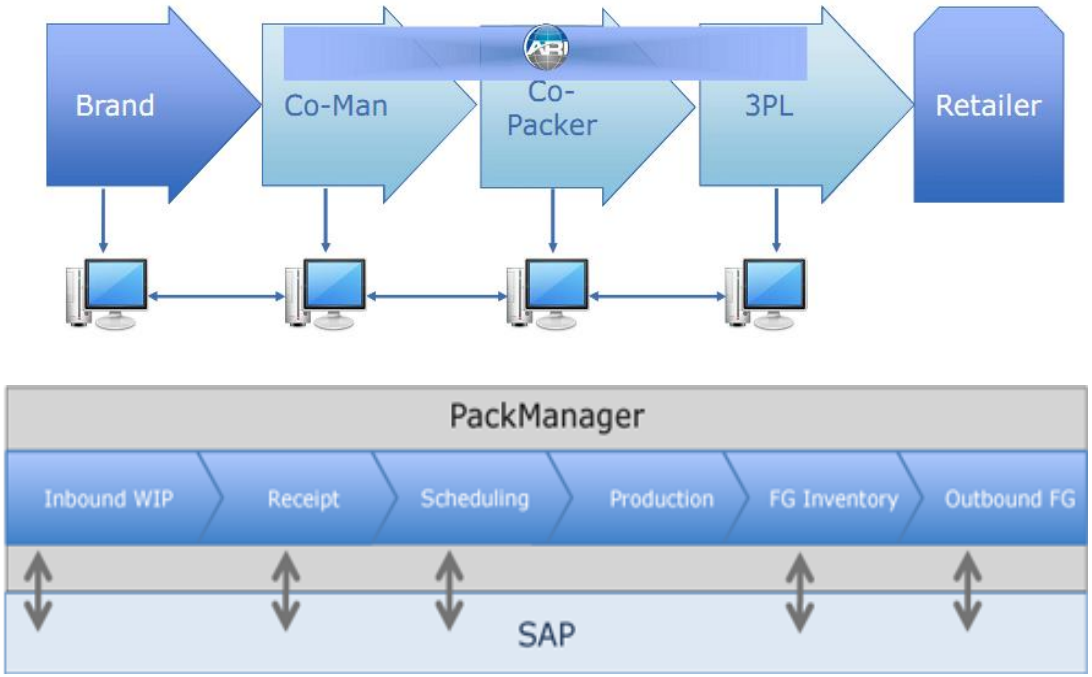
Systems Integration

Full service integrations across the customer-supplier workflow connect disparate systems to get real-time, accurate information, increase efficiency and speed-to-market.

Cutting-Edge Technology

ARI's uses Nulogy's PackManager, a cloud-based co-pack solution:

- On-demand access to real-time inventory and production data
- Comparison of estimates and production to drive more accurate quoting
- Compliant traceability
- End-to-end workflow



RESULTS

40%
Increased Commercialization Rate

3-5% Increased forecast accuracy
Leading hardware & support
Standard reporting
Flexible scheduling
Automated data entry
Business continuity

$ 800k to 1.5M
Yearly Saving / Cost Avoidance

ADVERTISING RESOURCES INCORPORATED PACKAGING

Solutions for
Efficient Packaging
and Effective Merchandising

Results

Activity	Past	Current/Est	Difference
Hardware & Support: Scanners, Servers, Programming, IT Support, Software Updates	$300K yearly	$100K	$200K
Reporting / Scheduling: Capacity Planning, Product Recalls, Inventory, Invoicing	100 hrs. weekly	50 hrs.	50 hrs.
Data Entry: PO's, Inbound, Production, Outbound Finished Goods, Residual Product	200 hrs. weekly	40 hrs.	160 hrs.
Business Continuity: From estimate through Invoicing	50 hrs. weekly	10 hrs.	40 hrs.

Cost Avoidance

Year one: $200K

Year two: $400K to $700K

Solutions for
Efficient Packaging
and Effective Merchandising

A Bigger Impact

Assisted ARI's Optimized Packaging Supply Chain (OPSC) to process more, faster, which equals commercialization of more programs in a shorter period of time:

- Provide clients with faster speed-to-market
- Shortened cycle time so clients can respond quicker to consumer/retailer demand or competition
- Increased forecasting accuracy reducing obsolesces by pushing order stage gates back

<u>Estimated Opportunities</u>

40% Increased commercialize rate= 1,800 line shifts

3-5% Increase in Forecast Accuracy=

$450-750K yearly avoidance in material/labor waste